AMENDMENTS TO THE CLAIMS:

This listing of claims will replace, without prejudice, all prior versions, and listings, of claims in the application.

LISTING OF THE CLAIMS:

1-7. (Canceled).

8. (Currently Amended) A method for detecting acid stratification in a battery, the method comprising:

determining a first state of charge value during a load period of the battery based on the basis of an estimated open-circuit voltage;

determining a second state of charge value during a rest period of the battery following the load period based on the basis of a measured open-circuit voltage;

comparing the first state of charge value to the second state of charge value; and

detecting acid stratification when a defined deviation of the first state of charge value from the second state of charge value is exceeded; and

assuming the first state of charge value for the rest period when the defined deviation of the first state of charge value from the second state of charge value is exceeded.

9. (Previously Presented) The method according to claim 8, wherein the deviation is defined as >20%.

10. (Previously Presented) The method according to claim 8, further comprising:

determining the estimated open-circuit voltage via an observation device, the observation device including a Kalman filter, the Kalman filter estimating the open-circuit voltage on the basis of at least one of a measured battery voltage, a measured battery temperature and a measured battery current using a model describing the battery.

11. (Currently Amended) A method for determining a state of charge of a battery during a rest period, the method comprising:

detecting acid stratification by:

determining a first state of charge value during a load period of the battery based on ~~the basis of~~ an estimated open-circuit voltage,

determining a second state of charge value during a rest period of the battery following the load period based on ~~the basis of~~ a measured open-circuit voltage,

comparing the first state of charge value to the second state of charge value, and

detecting acid stratification when a defined deviation of the first state of charge value from the second state of charge value is exceeded; and

assuming the first state of charge value for the rest period when the defined deviation of the first state of charge value from the second state of charge value is exceeded.

12. (Currently Amended) A method for neutralizing acid stratification in a battery, the method comprising:

detecting acid stratification by:

determining a first state of charge value during a load period of the battery based on ~~the basis of~~ an estimated open-circuit voltage,

determining a second state of charge value during a rest period of the battery following the load period based on ~~the basis of~~ a measured open-circuit voltage,

comparing the first state of charge value to the second state of charge value to define a deviation, and

detecting acid stratification when [[a]] the defined deviation of the first state of charge value from the second state of charge value is exceeded; and

increasing a charging voltage for charging the battery when the defined deviation of the first state of charge value from the second state of charge value is exceeded; and

assuming the first state of charge value for the rest period when the defined deviation of the first state of charge value from the second state of charge value is exceeded.

13. (Previously Presented) The method according to claim 8, wherein the method is performed in a system for detecting a performance capacity of the battery.

14. (Previously Presented) The method according to claim 11, wherein the method is performed in a system for detecting a performance capacity of the battery.

15. (Previously Presented) The method according to claim 8, wherein the method is performed in an electrical battery management system.

16. (Previously Presented) The method according to claim 11, wherein the method is performed in an electrical battery management system.

17. (Previously Presented) The method according to claim 12, wherein the method is performed in an electrical battery management system.

18. (Previously Presented) The method according to claim 11, wherein the deviation is defined as >20%.

19. (Previously Presented) The method according to claim 11, further comprising:
    determining the estimated open-circuit voltage via an observation device, the observation device including a Kalman filter, the Kalman filter estimating the open-circuit voltage on the basis of at least one of a measured battery voltage, a measured battery temperature and a measured battery current using a model describing the battery.

20. (Previously Presented) The method according to claim 12, wherein the deviation is defined as >20%.

21. (Previously Presented) The method according to claim 12, further comprising:
    determining the estimated open-circuit voltage via an observation device, the observation device including a Kalman filter, the Kalman filter estimating the open-circuit voltage on the basis of at least one of a measured battery voltage, a measured battery temperature and a measured battery current using a model describing the battery.